Do South-South Trade Agreements Increase Trade? Commodity-Level Evidence from COMESA

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Abstract

South-South trade agreements are proliferating: developing countries signed 70 new agreements between 1990 and 2003. Yet the impact of these agreements is largely unknown. In this paper, we focus on the static effects of South-South preferential trade agreements that take place through changes in trade patterns. We estimate the impact of the Common Market for Eastern and Southern Africa (COMESA) on Uganda's imports between 1994 and 2003. We use detailed import and tariff data at the 6-digit Harmonized System level for over 1,000 commodities. Based on a difference-in-difference estimation strategy, we find evidence—in contrast to aggregate statistics—that COMESA's preferential tariff liberalization has not considerably increased Uganda's trade with member countries, on average across sectors. The effect, however, is heterogeneous across sectors. Finally, we find no evidence of trade-diversion effects.

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I. INTRODUCTION

The number of preferential trade agreements (PTAs) between low-income countries, South-South trade agreements, has increased dramatically in the last decade: low-income countries signed 70 new agreements between 1990 and 2003 (WTO 2003). In the same period, regional agreements between countries of all income levels have spread worldwide[3]. Still, South-South arrangements account for more than 50 percent of all new trade agreements. Important examples include MERCOSUR in South America and COMESA in Eastern and Southern Africa. Arrangements are common between countries that are both poor and small; there are more than 30 arrangements in Africa (Yang and Gupta, 2005). Countries frequently belong to more than one agreement resulting in competing demands.

At the same time, South-South PTAs between small countries may not yield substantial economic gains to their members. South-South PTAs are more likely to give rise to trade diversion rather than trade creation. Pro-competitive effects for local firms, due to greater competition, and dynamic efficiency gains linked to economies of scale are also unlikely, as partner countries are usually both poor and small. In addition, fiscal revenues in low-income countries are more vulnerable to trade reforms (see section III).

Empirical evidence of trade effects in South-South PTAs is mixed (see section II). Papers in this literature, in general, use country-level data and capture the impact of preferential trade agreements by introducing a PTA dummy variable in a gravity-model framework. The dummy variable, however, is endogenous since the decision to create or join an agreement is not random. In addition, aggregate data masks commodity-level heterogeneity that may also bias the estimates. Progress from a methodological point of view has been made in the literature by Clausing (2001) and Romalis (2005) who use commodity-level data to analyze NAFTA and CUSFTA. We are the first ones in the literature to apply their empirical strategy to a South-South trade agreement, the Common Market for Eastern and Southern Africa (COMESA). In particular, in our analysis we focus on the static effects of South-South preferential trade agreements that take place through changes in trade patterns. We exploit the variation in the data across commodities, origin countries, and time to estimate the impact of COMESA preferential trade liberalization on Uganda's imports between 1994 and 2003. We also investigate whether these changes are driven by trade creation or trade diversion.

We focus our analysis on COMESA as it is a good example of a South-South preferential trade agreement involving small economies. All member countries are truly small in the world economy and the agreement has been in effect since 1994. Within COMESA, we analyze the impact of preferential liberalization on Uganda's trade patterns as Uganda represents a relatively stable economy in this time period.

[3] According to WTO (2003), 133 new agreements were signed between 1990 and 2003.

Using a difference-in-difference estimation strategy, our results show that reductions in the preferential tariff rate applied by Uganda to COMESA member countries, between 1994 and 2003, did not considerably increase imports from such countries. In other words, consumers in Uganda have been reluctant – on average across sectors - to switch the origin of their purchases to COMESA countries following the COMESA agreement.

We find that the elasticity of imports with respect to tariff rates is between 14% and 16%. We also estimate that the elasticity of substitution between varieties of the same good from different origin countries is approximately equal to 1.7. The magnitude of these effects is relatively small, compared to the results from previous studies for the United States and Canada within the CUSFTA and NAFTA agreements (Clausing 2001, Romalis 2005). Romalis's (2005) estimate for Mexican imports, however, is closer to our own estimate for Uganda. This may suggest that consumers in low-income countries, in general, have more inelastic demand curves and are, therefore, less likely to immediately benefit from trade reform. Search costs may help explain the reluctance of low-income consumers to switch the origin of their purchases.

Another interpretation of our results is consistent with the most important criticism of South-South PTAs, that is, because member countries in this type of agreements are not natural trading partners, preferential tariff liberalization is unlikely to produce a substantial and welfare-improving (that is, not trade-diverting) increase in trade volumes. This interpretation is supported by the finding that the effect of COMESA on Uganda's imports is heterogeneous across sectors. We find that the industries where the impact is larger and significant are those where developing countries are more likely to have a comparative advantage.

We test the robustness of our elasticity estimates in a number of ways. One concern is that the reduction in tariff rates within COMESA might have been compensated by an increase of non-tariff barriers on the same commodities. For example, after the initial implementation of COMESA, ad valorem excise taxes were imposed in Uganda on selected imports and goods targeted for these taxes tended to be produced predominantly in COMESA countries. We think that this reading of our results is unlikely given that we partially account for the existence of non-tariff barriers by using data on import excise taxes. Political economy factors are also unlikely to affect our results as, in our main specification, we control for both time-invariant political-economy factors and changes over time of political-economy factors that are common across member and non-member countries. In addition, our findings are not overturned by a triple-difference estimation strategy that controls for the impact of factors that change over time and are specific for each origin country of imports (this robustness check follows Romalis (2005)). Finally, our results are strengthened when we consider the possible impact of tax evasion on recorded imports, as documented by Fisman and Wei (2001).[4]

[4] One reason why recorded imports are low when tariffs are high is tax evasion. When tariffs come down, the increase in imports might therefore reflect in part an increase in *recorded* (as opposed to actual) imports due to less tax evasion.

Finally, the concluding step of the empirical analysis consists in the investigation of trade-creation vs. trade-diversion effects. We find no support for trade-diversion effects given that there is no evidence of a reduction of imports from non-COMESA countries. Therefore, although COMESA's preferential tariff liberalization has not considerably increased Uganda's trade with member countries, these small effects are likely to be associated with trade creation. In addition, it is important to notice that even small changes might represent a big improvement for the type of country we are analyzing, a low-income and small country in Sub-Saharan Africa.

We organize the remainder of the paper as follows: section two surveys the literature, section three reviews the theory, section four discusses the data and the specifics of the trade agreement; section five develops the empirical strategy and presents the results; and section six concludes.

II. LITERATURE

Empirical work on preferential trade agreements is extensive. In general, these studies are either ex-ante computable-general-equilibrium (CGE) studies (see Baldwin and Venables 1995 for a survey*)* or ex-post empirical studies. The ex-post analyses can be further divided between papers based on aggregate-level data and works using sector-level or commodity-level data.

The ex-post studies based on country-level data capture the impact of preferential trade agreements by introducing a PTA dummy variable in a gravity-model framework (e.g., Frankel and Wei 1995)[5]. While these papers generally find a positive impact of preferential agreements on trade volumes, the estimated effect is likely to be biased due to endogeneity and reverse causality. The main reason is that the decision to create or join an agreement is usually not random, as countries signing trade arrangements with each other are a selected group. Among other factors, high trade volumes increase the likelihood that countries will make an agreement. To address this concern, more recently Chris Magee (2003) models the PTA dummy variable as endogenous in a gravity-type equation. He finds evidence that, once endogeneity is taken into account, the impact on trade patterns of preferential trade agreements is unstable across different specifications and, in particular, not always positive.

Previous works on South-South PTAs and, specifically, on African PTAs often follow the pre-Magee (2003) gravity-type approach and, therefore, are possibly affected by the same type of concerns (for example, Cernat 2001, Subramanian and Tamirisa 2001). Cernat (2001) asks whether South-South regional PTAs are more trade-diverting than other agreements and

[5] The empirical approach of this early literature was of course limited by the fact that, at the time these papers were written, commodity-level data was not easily accessible.

finds a negative answer.[6] In particular, the paper shows that COMESA has produced net trade-creation effects with no evidence of trade diversion. On the other hand, Subramanian and Tamirisa (2001) offer a more pessimistic view: Their results reveal a negative block effect for COMESA countries prior to the formation of the agreement. In 1990 countries within COMESA traded significantly less with each other than the average pair of countries in the sample. This finding suggests that COMESA countries are not natural trading partners, therefore the agreement is more likely to lead to trade diversion.[7]

The second subset of ex-post studies attempts to overcome the empirical problems of gravity-type analyses by employing sector-level and commodity-level trade data (Clausing 2001, Krueger 1999, 2000, Romalis 2005, Yeats 1998a, 1998b). In particular, using detailed commodity-level data, Clausing (2001) estimates the effect of CUSFTA on trade flows from Canada to the United States. Her results suggest that the agreement has not been trade diverting. Romalis (2005), in contrast, finds evidence of trade-diversion effects in his analysis of the impact of NAFTA and CUSFTA on member countries' imports. Using a triple-difference estimation technique[8], Romalis (2005) also estimates demand elasticities and finds that U.S. and Canada trade volumes are very sensitive to tariff movements. The estimates for Mexico, in contrast, are lower in absolute value, consistent with our findings for Uganda. In addition, based on estimated elasticities of total export supply, the paper finds evidence of a modest effect of NAFTA and CUSFTA on border prices and welfare.

From a methodological point of view, our paper is most closely related to Clausing (2001) and Romalis (2005). In particular we are the first ones in the literature, to our knowledge, to apply their empirical strategy to a South-South trade agreement. Finally, our paper is also closely related to recent works in the literature estimating import demand elasticities (Kee, Nicita and Olarreaga 2005) and elasticities of substitution (Broda and Weinstein 2004).

III. TRADE CREATION AND TRADE DIVERSION

The welfare impact of PTAs is ambiguous. As first stated by Viner (1950), preferential trade liberalization can either result in the replacement of inefficient, high-cost domestic production with low-cost imports from member countries (i.e., trade creation) or in the substitution of efficient, low-cost imports from non-member countries with less efficient imports from member countries (i.e., trade diversion). Consider the case of small open economies signing an agreement: If trade creation takes place, PTAs are welfare-improving while, under trade diversion, their effect on welfare through changes in trade patterns is

[6] In order to differentiate between trade creation and trade diversion, Cernat (2001) introduces two dummy variables which capture, respectively, whether two countries belong to the same PTA and whether one belongs to a PTA and the other does not.

[7] Other studies using aggregate data to analyze African trade patterns are Foroutan and Pritchett (1993), Coe and Hoffmaister (1999), Rodrik (1999), IMF (2000).

[8] This triple-difference estimation strategy is equivalent to what we use in the last column of Table 7.

ambiguous.[9] In the case of large open economies, the impact of PTAs is complicated by terms-of-trade changes, which make it harder to sign the net welfare effect. However, our focus on COMESA, whose member countries are small open economies[10], allows us to abstract from terms-of-trade changes.[11]

The difference between trade creation and trade diversion is also relevant from a political-economy point of view. Under trade creation, preferential trade agreements are more likely to be building blocks for multilateral trade negotiations, since policymakers can build consensus around the visible gains of partial trade liberalization. Stumbling-blocks effects are instead possible in industries characterized by trade diversion, where new special-interest groups will form and lobby against multilateral free trade. These are sectors where exports by PTA member countries have replaced exports by more efficient non-member countries. In such industries, producers from member countries would lose in direct competition with producers from non-member countries, and thus feel threatened by movements towards global free trade (Krishna 1998, Krueger 1999).

The welfare effects taking place through trade creation and trade diversion and other channels imply that South-South PTAs between small countries are the least likely to produce gains for their members, for several reasons. First, developing countries are not usually natural trading partners, as evidenced by the fact that they trade little with each other as a share of total imports.[12] For example, the share of African imports from other African countries in 2001 was approximately 9 percent (IMF 2002). The reason is that low-income countries tend to have similar relative factors supplies, therefore the incentive to trade with each other is smaller than for dissimilar countries. In other words, developing countries are not low-cost producers of most goods other developing countries import, since they all tend to have a comparative advantage in the same sectors. Therefore, South-South trade agreements are likely to lead to trade diversion as opposed to trade creation, if any increase in imports occurs at all. From a political-economy point of view, trade diversion in turn implies a stumbling-block effect of South-South trade agreements for multilateral trade liberalization.

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[9] The case of trade diversion of preferential tariff liberalization for a small open economy (SOE) is, in welfare terms, very similar to the case of non-discriminatory tariff liberalization for a large open economy (LOE). In both situations the net welfare effect is ambiguous due to the change of border prices faced by the country. However, in the PTA SOE case with trade diversion, the change of border prices is due to the discriminatory nature of the PTA while, in the LOE case of non-discriminatory trade liberalization, the change of border prices is driven by a terms-of-trade effect.

[10] Given the small-open-economy assumption, that is infinite export supply elasticity, shifts in Uganda's import demand caused by preferential trade liberalization do not affect border prices.

[11] Additional welfare effects - besides the static effects of PTAs through changes in trade patterns - include the impact of PTAs on imperfectly-competitive markets and their dynamic effects. See Baldwin and Venables (1995) for a complete survey. In this paper, we only focus on the static effects of PTAs that take place through changes in trade patterns.

[12] On the other hand, low trade volumes between developing countries may be due to high trade barriers between them.

Second, low-income and small PTA partner countries are also less likely to produce efficiency gains - linked to economies of scale - and to trigger pro-competitive effects for local producers. The reason is that South-South PTAs offer their members access to smaller markets than would be the case in North-South agreements. In addition, firms in PTA partner countries which are developing economies may not be much more efficient than home firms, therefore competitive pressure on domestic producers may not be so strong. Finally, because trade taxes are a large proportion of domestic revenues in developing countries, the loss of tariff revenue may have a more adverse impact on a developing country's fiscal position, This possibility is evidenced by the strong decline in tariff revenue (8 percent of GDP) in Uganda after the inception of COMESA (Figure 1). For these and other reasons, some authors in the literature have expressed their preference, from an economic point of view, for North-South over South-South PTAs (Schiff 1997, Schiff and Winters 2003).[13]

IV. DATA

We use commodity-level import and tariff data at the 6-digit Harmonized System level. Import statistics by origin country come from the COMTRADE database, developed by the United Nations Statistics Division. Data on preferential and MFN (customs-duty) tariff rates, in addition to import excise taxes, are obtained from TRAINS, developed by UNCTAD. We access both data sets through the World Integrated Trade Solution (WITS) system, designed by the World Bank.

The Common Market for Eastern and Southern Africa (COMESA) is an example of South-South PTA involving small economies. The treaty establishing COMESA as a preferential trade agreement of Eastern and Southern African states was ratified on December 8, 1994.[14] At that date, some of the countries in COMESA - including Uganda - were already part of a regional trade agreement called PTA.[15] The data available for Uganda, used in this paper, covers the last year of the PTA agreement (1994) and four recent years of the COMESA agreement (from 2000 to 2003). For each of these five years, we merge numbers on the value of Uganda's imports, at the commodity level and by country of origin, with data on Uganda's PTA tariff rates (for 1994), COMESA tariff rates (for 2000 to 2003) and MFN tariff rates (for all years). We also use data on Uganda's import excise taxes.

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[13] "One of the main themes of this book is our preference for North-South over South-South RIAs for developing countries. If a developing country is going to pursue regionalism, it will almost always do better to sign up with a large rich country than with a small poor one. In trade terms, a large rich country is likely to be a more efficient supplier of most goods and a source of greater competition for local producers." (Schiff and Winters, 2003, p.15).

[14] Member countries of COMESA (Common Market for Eastern and Southern Africa) are: Angola, Burundi, Comoros, Democratic Republic of Congo, Djibouti, Egypt (which joined in 1998), Eritrea, Ethiopia, Kenya, Madagascar, Malawi, Mauritius, Namibia, Rwanda, Seychelles (which joined in 1997), Sudan, Swaziland, Uganda, Zambia, and Zimbabwe. In terms of population, this agreement is extensive as the overall population of COMESA countries was, in 1998, approximately 380 million people.

[15] Member countries of the PTA, which was ratified in 1982, were: Burundi, Comoros, Djibouti, Ethiopia, Kenya, Malawi, Mauritius, Rwanda, Swaziland, Uganda, Zambia, Zimbabwe (all of which were also part of the later COMESA); and Somalia and Lesotho.

Uganda's data for these five years is coded according to three different versions of the Harmonized System (HS) classification (H0 for 1994, H1 for 2000 and 2001, H2 for 2002 and 2003). We use WITS's concordance tables and recode all the data following the H0 classification.[16] In addition, tariff data according to the HS classification is presented up to the 8 digit level, while import values are disaggregated only up to the 6 digit level. We use the simple average tariff rate for each 6-digit level code (averaged over the 7-digit and 8-digit codes).[17] Finally, the tariff rates we use in the empirical analysis incorporate information on import excise taxes imposed on each product.

Tables 1 through 4 present summary statistics of the main variables used in the Uganda's analysis. They document the extent and patterns of preferential and MFN tariff liberalization taking place in Uganda between 1994 and 2003. They also offer a preliminary view of the impact of trade liberalization (preferential and not) on Uganda's imports.

Table 1 shows that tariff rates faced by COMESA countries decrease substantially in this period, going from an average preferential tariff rate (across tariff lines) of 11.3 percentage points in 1994 to an average of 5.5 percentage points in 2003. This reduction in protection vis-à-vis COMESA countries is matched by a substantial increase in the average value of imports of a 6-digit HS commodity from the same countries (US$155 thousand to US$289 thousand). Table 2 shows that MFN tariff rates decrease as well between 1994 and 2003, even more than preferential tariff rates (from 17.9 to 10.2 percentage points) but their level on average is higher than preferential tariff rates, both in 1994 and 2003. Imports from non-COMESA countries increase as well during this period of time. The overall evidence on changes in imports, from both COMESA and non-COMESA countries, is consistent with the pattern of *total* imports (percent of GDP) in Figure 1.

Tables 3 and 4 provide evidence on the shifting distribution of tariff rates (both preferential and MFN ones) between 1994 and 2003. The mode of the distribution of preferential tariff rates is in 1994 between 5 and 10 per cent, while in 2003 it is under 5 per cent. On the other hand, the mode of the distribution of MFN tariff rates (between 5 and 10 per cent) does not change from 1994 to 2003.

Finally, appendices I and II show respectively preferential and MFN tariff rates in 1994 and 2003 by 2-digit 1996 HS codes. The sectors that experienced the greatest reduction in

[16] Going from the H2 and H1 to the H0 classification, a few different H2 codes and H1 codes are reclassified as the same H0 code. In those cases, for each H0 code we use the simple average of the tariff rates (averaged over the overlapping H2 or H1 codes).

[17] Another complication is that, in the period considered, Uganda belonged to other preferential trade agreements (the CBI – Cross-Border Initiative – and EAC – East African Community). We do not have data on preferential tariff rates within these other agreements. Our results hold to the extent that the rates applied by Uganda to COMESA countries belonging to these other PTAs were the COMESA tariff rates. This is consistent with our understanding of these arrangements (IMF 2000, McIntyre 2005).

preferential tariff rates between 1994 and 2003 were "edible fruit and nuts...," "vegetable plaiting materials...," "essential oils, etc.; perfumery, cosmetic...," "prep feathers, down etc..," and "musical instruments..." Some sectors, such as "tobacco and manufactured tobacco substitutes," experienced an increase in the preferential tariff rate due to the imposition of import excise taxes that generally targeted goods from COMESA countries. Appendix III shows Uganda's total imports by country of origin, in 1994 and 2003 (calculated based on data at the commodity level). Kenya is the largest exporter to Uganda in both years. Imports from other COMESA countries are substantially smaller.

In our empirical analysis, following the previous literature, we ask the following questions: To what extent did Uganda's imports from COMESA countries increase, between 1994 and 2003, as a result of COMESA preferential trade liberalization? To the extent that imports did increase, how much of this increase was a result of trade diversion? (evidenced by a reduction in imports from non-COMESA countries). In asking both questions, we cannot simply consider the change in imports from COMESA and non-COMESA countries between 1994 and 2003. We need to construct a counterfactual of how much trade would have changed in the absence of the trade agreement and net out this effect from our measure. This is the goal of the model in the next section.

V. EMPIRICAL STRATEGY AND RESULTS

In this section we exploit the time, commodity and origin-country variation in imports and tariffs to identify COMESA's impact on Uganda's imports. We first develop a simple model that delivers the estimating equations of our empirical analysis. Our methodology is closely related to the one used by Clausing (2001) and Romalis (2005). We proceed from the simplest to the most sophisticated estimation strategy, reflecting the successive advances in the literature.

We assume that each commodity *i* is differentiated by country of origin *c* (Armington assumption).[18] Varieties from different origins of the same good are not perfect substitutes; the impact of preferential trade liberalization on trade patterns is captured by the elasticity of substitution between varieties of different origins. The representative consumer in Uganda maximizes the following Cobb-Douglas utility function (at time *t*) over aggregate consumption of each commodity *i*, Q_{it}, subject to total expenditure being less or equal to total income Y_t:

$$U_t = \sum_i b_i \lg Q_{it} , \qquad \text{where } \sum_i b_i = 1 . \tag{1}$$

Consider a constant elasticity-of-substitution (CES) demand structure over varieties of commodity i coming from each country c at time t:

[18] We use the terms commodity, product, and good interchangably in the paper.

$$Q_{it} = \left[\sum_c q_{ict}^{\frac{\sigma_i - 1}{\sigma_i}} \right]^{\frac{\sigma_i}{\sigma_i - 1}}, \ \sigma_i > 1. \tag{2}$$

where q_{ict} is the quantity demanded in Uganda of commodity i from country c at time t, and σ_i is the elasticity of substitution between different varieties of commodity i. The optimal demand for each variety is found through maximization of aggregate consumption Q_{it} subject to the following budget constraint:

$$\sum_c q_{ict} \cdot p_{ict} \cdot t_{ict} \cdot g_{ict} = E_{it}, \tag{3}$$

where $p_{ict} = p_{ict}(a_{ict}, \sigma_i)$ equals the border price of variety c of commodity i at time t, a_{ict} equals the marginal cost to produce commodity *i* in country *c* at time *t*, t_{ict} is one plus the *ad valorem* tariff rate applied by Uganda at time *t* on variety *c*, and $g_{ict} \geq 1$ represents iceberg transport costs (i.e., in order to have one unit of variety c of good i at time t, it is necessary to buy g_{ict} units), and $E_{it} = b_i \cdot Y_t$ gives the total expenditure at time t on commodity i (this follows from (5)). In what follows, we will assume that the elasticity of substitution is equal across commodities ($\sigma_i = \sigma$, for every i).[19] Maximization of (2) subject to (3) results in the following quantity demanded in Uganda of variety c relative to variety c' of good i:

$$\frac{q_{ict}}{q_{ic't}} = \left(\frac{p_{ict} \cdot g_{ict} \cdot t_{ict}}{p_{ic't} \cdot g_{ic't} \cdot t_{ic't}} \right)^{-\sigma}. \tag{4}$$

The quantity demanded of variety c is therefore equal to:

$$q_{ict} = (p_{ict} \cdot g_{ict} \cdot t_{ict})^{-\sigma} \frac{E_{it}}{\left[\sum_{c'} (p_{ic't} \cdot g_{ic't} \cdot t_{ic't})^{(1-\sigma)} \right]}, \tag{5}$$

which gives a CIF value (Cost including Insurance and Freight) of:

[19] In the empirical analysis, we first estimate a common elasticity of substitution across commodities. We next estimate elasticities of substitution which are specific for each one-digit HS sector (see Section V.C)..

$$m_{ict} \equiv q_{ict} \cdot p_{ict} \cdot g_{ict} = (\frac{p_{ict} \cdot g_{ict}}{P_{it}})^{(1-\sigma)} \cdot t_{ict}^{-\sigma} \cdot E_{it}, \quad (6)$$

where $P_{it} = [\sum_{c} (p_{ict} g_{ict} t_{ict})^{(1-\sigma)}]^{\frac{1}{(1-\sigma)}}$ is the price index of good i at time t. Taking logarithms of expression (6), we can derive the first specification of the empirical model:

$$\lg m_{ict} = -\sigma \lg t_{ict} + (1-\sigma) \lg p_{ict} + (1-\sigma) \lg g_{ict} - (1-\sigma) \lg P_{it} + \lg E_{it} \quad (7)$$

Expression (7) is the starting point of our empirical analysis. Throughout, we use pooled yearly data for 1994 and 2000-2003, and measure the first term on the right hand side in expression (7) using two methods. In Table 5, we use the log of (one plus) the preferential tariff rate as directly implied by (7).[20] In Table 6, we use $(t_{ict} - 1)$, which is the *ad-valorem* tariff rate applied by Uganda to commodity i from country c at time t (taking a first-order Taylor approximation, $\lg t_{ict} \cong (t_{ict} - 1)$). While the coefficient on the first measure represents the impact of a percentage change of (one plus) the tariff rate, the coefficient on the second measure gives the impact of a percentage point change. Each column in the two tables labelled by the same number corresponds to the same specification.

A. Benchmark Estimators

The first step in our empirical strategy is to estimate naïve benchmark regressions meant to demonstrate that omitted variables biases are important. In particular, in regression (1) of Table 5, we start by regressing the log of imports on the log of (one plus) the preferential tariff rate, the first term on the right-hand side of expression (7). The implicit assumption in this specification is that the remaining terms are orthogonal to the preferential tariff rate. Next, in regression (2) we augment this regression with year dummies that capture the impact of time effects that are invariant across product codes (e.g., inflation, growth, etc.). Both estimates of trade liberalization (regressions (1) and (2)) are insignificant. We obtain the same insignificant results in Table 6.

Next, in regression (3) of Table 5, we add dummy variables for 6-digit HS product-codes. This specification assumes that the impact of varieties' prices (p_{ict}) and transport costs (g_{ict}) in (7) is captured by commodity and time dummy variables (in addition to idiosyncratic shocks in the error term). It also posits that, controlling for goods' dummy variables and time effects, the remaining variation in the price index P_{it} and expenditure E_{it} is orthogonal to tariff changes. The results of this regression show that the reduction of

[20] Since in the empirical analysis we express tariff rates in percentage terms, $\lg t_{ict}$ is calculated as the log of (100 plus) the tariff rate.

preferential tariff rates increases imports from COMESA countries. The effect is statistically significant at the 1% level. However, the size of the coefficient is not large relative to the coefficient estimated for some other countries in the existing literature (see below).[21]

Next, in regression (4) (Tables 5 and 6) we replace commodity dummy variables with commodity-by-country fixed effects. This allows us to control, for example, for time-invariant factors that affected demand for Kenyan but not Malawian mangos, or vice versa. This specification controls for all time-invariant determinants of imports of commodity *i* from country *c*, resulting in a true fixed-effect estimation. Clausing (2001) uses a similar estimation strategy for imports by the United States from Canada. The estimates we find are now smaller in absolute value than in regression (3) but still significant at the 5% level. The elasticity of substitution (σ) is estimated to equal 1.7, while the elasticity of imports with respect to tariff rates is between 14% and 16%. In particular, if the *ad valorem* tariff rate decreases by 100% (for example, by 10 percentage points when the tariff rate equals 10%), then imports from COMESA countries increase by 16% (based on column (4), Table 5). Based on column (4), Table 6 if the *ad valorem* tariff rate decreases by 10 percentage points, imports increase by 14%. The magnitude of these effects is relatively small, compared to the results from previous studies for other countries and agreements. In her analysis of U.S. trade imports from Canada within the CUSFTA agreement, Clausing (2001) finds that a ten percentage point decrease in tariffs implies a 96% increase in imports from Canada. Our estimate of Uganda's elasticity of substitution is also much smaller than the estimated elasticity for the U.S. computed by Romalis (2005), which ranges between 6.2 and 10.9.

For Mexican imports, however, Romalis finds an estimate that ranges between 0.6 and 2.5 and is close to our own for Uganda. Our estimate is also similar in magnitude to the elasticity of import demand for Uganda estimated by Kee, Nicita and Olarreaga (2005) (equal to 1.22).[22] This may suggest that consumers in low-income countries, in general, have more inelastic demand curves and are, therefore, less likely to immediately benefit from trade reform. Search costs may help explain the reluctance of low-income consumers to switch the origin of their purchases.

B. Difference-in-Difference Estimator

The estimation strategy up to this point depends on several assumptions that may not hold. In particular, the price index P_{it} and expenditure E_{it} may not be orthogonal to preferential tariff rates, after controlling for commodity (or commodity-by-country) fixed effects and time effects. For example, if commodities with increased expenditure levels E_{it} (and thus high imports) are protected against preferential tariff reductions, then our coefficient estimate

[21] We obtain a similar result in regression (3), Table 6.

[22] The elasticity of import demand equals the elasticity of substitution, if the cross-price demand elasticity between goods is zero, which is the case given a utility function of the CES-Cobb Douglas form (Kee, Nicita and Olarreaga 2005).

of $-\sigma$ in regression (7) would be biased towards zero. Another concern is that P_{it} might be correlated with preferential tariff movements since, by construction, P_{it} is a function of all tariffs in the sector, including COMESA tariffs. In addition in Uganda, COMESA and MFN tariff rates were liberalized simultaneously resulting in a clear correlation between the regressor and P_{it}.

We next modify our empirical model to address these issues by constructing a difference-in-difference estimator, in which the control group is imports from non-COMESA countries. Using expression (6) for CIF imports by Uganda of variety c and of variety c' of good *i* at time *t*, we can calculate the following ratio:

$$\frac{m_{ict}}{m_{ic't}} = \left(\frac{p_{ict} \cdot g_{ict}}{p_{ic't} \cdot g_{ic't}} \right)^{(1-\sigma)} \cdot \left(\frac{t_{ict}}{t_{ic't}} \right)^{-\sigma} . \qquad (8)$$

Let's suppose that c represents COMESA countries while c' non-COMESA countries. The advantage of considering expression (8), which represents Uganda's *relative* imports from COMESA to non-COMESA countries, is that the terms in P_{it} and E_{it} get canceled out from the estimating equation. Expression (8) suggests a new specification of the empirical model. The dependent variable now becomes the logarithm of the ratio of imports from COMESA countries to imports from non-COMESA countries. We regress it on the log of the preference margin afforded by Uganda to preferential trading partners. We calculate the log of the preference margin as the difference between the log of (one plus) the preferential tariff rate and the log of (one plus) the MFN tariff rate. In other words, we estimate the following model (regression (5), Table 5):

$$\lg \frac{m_{ict}}{m_{ic't}} = -\sigma \cdot (\lg t_{ict} - \lg t_{ic't}) + (1-\sigma) \lg \frac{p_{ict}}{p_{ic't}} + (1-\sigma) \lg \frac{g_{ict}}{g_{ic't}} , \qquad (9)$$

where c and c' represent, respectively, the varieties coming from each COMESA member country and from the rest of the world (as a whole). As in regressions (4), we introduce commodity-by-country fixed effects and time dummy variables. Therefore, in this last specification we only need to assume that the time variation in relative prices and relative transportation costs of two varieties of the same commodity is orthogonal to tariff movements.

In the theoretical model, we assume that the elasticity of substitution between varieties of the same good is equal for any pair of origin countries of imports. In practice in the empirical analysis, as made clear by equation (9), the elasticity of substitution we estimate is between COMESA and non-COMESA origin varieties, since we exploit the differential variation in preferential vs. MFN tariff rates.

This regression represents our difference-in-difference (and preferred) specification. As mentioned above, this strategy makes it possible to net out the impact of commodity-specific effects which are time-varying, such as P_{it} and E_{it}. Thus, our difference-in-difference estimator also allows us to net out the impact of changes in MFN tariff rates that take place over the same period.

Results in Table 5, regression (5), suggest that the biases due to P_{it} and E_{it} may not have been substantial since our new estimate is very close to what we previously found: the coefficient on the log of the preference margin equals -1.9 (significant at the 10% level). In Table 6, regression (5), we also estimate this equation using, as independent variable, $(PTAtariff_{it} - MFNtariff_{it})$, which is the preference margin afforded by Uganda to preferential trading partners, calculated as the difference between the preferential tariff rate and the MFN tariff rate (as before we use a first-order Taylor approximation to approximate $\lg t$). The results are similar.

C. Robustness Checks

We next test the robustness of these results in Table 7. First, in regression (1) of Table 7, we expand the dataset. Some COMESA countries increased exports from zero to a positive value in a specific product code, or vice versa. In the former case, by excluding this variation our previous regression estimates would be biased toward zero. Therefore, whenever import data exists for at least a single year but not the other years, we add observations for the missing year(s), and assign them an import value of US$1. Results in column (1) suggest that the exclusion of these observations in Tables 5 and 6 did not bias our estimate towards zero.

Second, we relax the assumption that the elasticity of substitution is constant across product codes and run regressions that are specific for each one-digit HS code (see appendix I and II for a list of two-digit codes included in each one-digit code). Estimates of the elasticity of substitution are insignificant for each one-digit sector except HS1, HS2, and HS3 (which include agricultural products and beverages). For these sectors, we estimate elasticities that are substantially higher than on average. Therefore, first, our previous average estimates hide cross-sector heterogeneity. Second, not surprisingly, the sectors where the impact is larger and significant are those where developing countries are more likely to have a comparative advantage. These results are presented in regressions (2) through (4) in Table 7.

Finally, we address the possibility that the relative price ($\frac{p_{ict}}{p_{ic't}}$) term in equation (9) might be correlated with the preference margin, even after controlling for commodity (or commodity-by-country) fixed effects and time effects as done in regression (5), Table 5. Our third robustness check attempts to control for this bias, which is for example due to unobserved changes in the marginal cost of production of commodity *i* in country *c* (affecting the border price) that may be correlated with tariff movements. For example, production of beer in Kenya might have become more efficient relative to non-COMESA countries, and

this might be negatively correlated with preferential concessions for political-economy reasons (e.g., the excise taxes on alcohol). This would bias our estimate towards zero.

Expression (8) above refers to Uganda's relative imports (from COMESA vs. non-COMESA countries). Based on the same model, we can derive a very similar expression for any other country's relative imports from (the same) COMESA vs. (the same) non-COMESA countries. In the following expression we consider South African imports:[23]

$$\frac{m_{ict}^{SA}}{m_{ic't}^{SA}} = \left(\frac{p_{ict} \cdot g_{ict}^{SA}}{p_{ic't} \cdot g_{ic't}^{SA}} \right)^{(1-\sigma)} \cdot \left(\frac{t_{ict}^{SA}}{t_{ic't}^{SA}} \right)^{-\sigma} \tag{10}$$

We then use this expression to construct our triple difference estimating equation, where the dependent variable is the logarithm of Uganda's imports from COMESA countries relative to non-COMESA countries (expression (8)) divided by South Africa's imports from COMESA countries relative to non-COMESA countries (expression (10)):

$$\lg \frac{m_{ict}}{m_{ic't}} - \lg \frac{m_{ict}^{SA}}{m_{ic't}^{SA}} = \tag{11}$$

$$-\sigma \cdot [(\lg t_{ict} - \lg t_{ic't}) - (\lg t_{ict}^{SA} - \lg t_{ic't}^{SA})] + (1-\sigma)(\lg \frac{g_{ict}}{g_{ic't}} - \lg \frac{g_{ict}^{SA}}{g_{ic't}^{SA}})$$

This specification nets out the impact of the relative border-price term, which is independent of the identity of the importing country ($\frac{p_{ict}}{p_{ic't}}$ appears in both equations (8) and (10) and gets canceled out by taking their ratio). However, as in the previous specifications, we still need to assume that the relative transport-costs term is given by the sum of commodity-by-country fixed effects, time dummy variables and a random component orthogonal to the preference margin.

This is the approach taken by Romalis (2005). The last column in Table 7 shows the results based on equation (11). The estimated elasticity of substitution is insignificantly different from zero. If this result is due to a true zero elasticity of substitution, then our previous estimates were not underestimating the impact of COMESA on imports; however, if the

[23] We thank John Romalis for his suggestion to use South Africa in the triple difference specification. We choose South Africa since we want to maximize the number of products that both countries (Uganda and South Africa) import from the same origin country. These are the observations that can be used to estimate equation (15). The apartheid ban on exports to South Africa was lifted in 1993; therefore, the impact on changes between 1994 and 2003 should be minimal.

insignificance of the elasticity is caused by the imprecision of the estimate (e.g., due to few observations), then we cannot draw strong conclusions from this robustness check. In addition, notice that this robustness check is based on a much smaller number of observations than previous specifications, therefore the estimate might be affected by a selection-bias problem. We check this in regression (5), which delivers a coefficient estimate which is not statistically different from our original estimate of -1.93.

D. Trade Diversion

Our last test is for trade diversion. This test is important to make a welfare statement about the impact of the trade agreement. Our investigation is based on the fact that, if trade diversion resulted from the PTA agreement, holding all other factors constant, we would expect a decline in imports from non-COMESA countries in those sectors where preferential tariff rates decline. Our empirical strategy relies on expression (7) above implemented for imports from non-COMESA countries. Results are presented in Table 8.

The first column presents the results from the regression of the log of non-COMESA imports on the log of the MFN tariff rate. The equation includes commodity-by-country dummies and year effects, therefore it is equivalent to the fourth regression in Table 5 for imports from COMESA countries. The number of observations is over 62 thousand accounting for the much higher share of non-COMESA imports in total imports to Uganda. The coefficient is also small, significant, and is consistent with the results in Table 5. That is, the estimates for the elasticity of substitution between COMESA and non-COMESA countries origin goods, measured using data either for imports from COMESA or non-COMESA countries, are similar.

To test for trade diversion effects, we include the log of the preferential tariff rate in regression (2) to capture the impact of COMESA trade liberalization on non-COMESA imports, which according to the model works through P_{it}. The coefficient on the latter variable is insignificantly different from zero, thus, giving no support to the trade-diversion hypothesis. Trade diversion, however, may only occur in sectors in which COMESA has a comparative advantage. In regression (3) and (4), to control for this factor, we include as regressors the log of COMESA imports and the COMESA share in imports, respectively, and their interaction with preferential tariff rates All trade diversion variables remain insignificant. Finally, we find additional evidence consistent with no trade diversion taking place in Figure 2, which shows that the ratio of imports from COMESA relative to non-COMESA (developing) countries decreased after 1994.

Therefore, although COMESA's preferential tariff liberalization has not considerably increased Uganda's trade with member countries, these small effects are likely to be associated with trade creation.

VI. CONCLUSIONS

In this paper we present evidence that South-South trade agreements create positive but little economic gains, through changes in trade patterns, for their members. In particular, we find evidence of small increases in trade volumes in the case of Uganda within COMESA. Thus, commodity-level data offers a different picture of the effect of COMESA than the evidence based on aggregate data (see, for example, our summary statistics in Table 1 and also the results in Cernat (2001) based on a gravity-type analysis[24]).

Our estimates are similar to what Romalis (2005) finds in the case of Mexico within the NAFTA agreement. This may suggest that consumers in low-income countries, in general, have more inelastic demand curves and are, therefore, less likely to immediately benefit from trade reform. Search costs may help explain the reluctance of low-income consumers to switch the origin of their imports. An alternative explanation of our findings is the South-South nature of the agreement. Preferential trade agreements among developing countries may lead to no or a small effect on trade volumes, since developing countries are not natural trading partners.

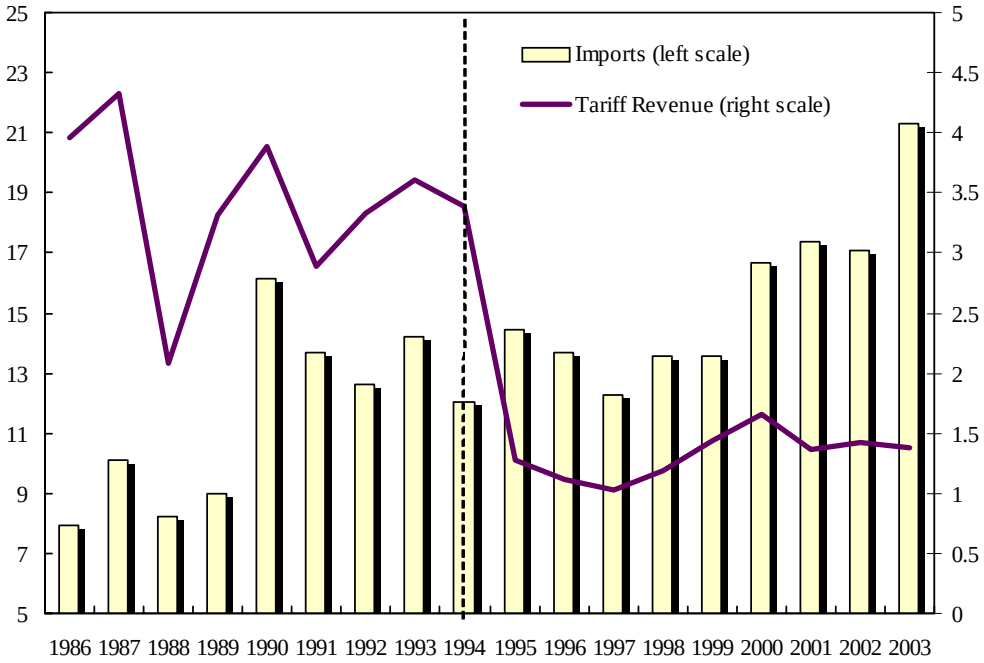
We test the robustness of our elasticity estimates in a number of ways. One concern is that the reduction in tariff rates within COMESA might have been compensated by an increase of non-tariff barriers on the same commodities. For example, after the initial implementation of COMESA, ad valorem excise taxes were imposed in Uganda on selected imports and goods targeted for these taxes tended to be produced predominantly in COMESA countries. We think that this reading of our results is unlikely given that we partially account for the existence of non-tariff barriers by using data on import excise taxes. Political economy factors are also unlikely to affect our results as, in our main specification, we control for both time-invariant political-economy factors and changes over time of political-economy factors that are common across member and non-member countries. In addition, our findings are not overturned by a triple-difference estimation strategy that controls for the impact of factors that change over time and are specific for each origin country of imports (this robustness check follows Romalis (2005)). Finally, our results are strengthened when we consider the possible impact of tax evasion on recorded imports, as documented by Fisman and Wei (2001).

The results of this paper suggest two important directions for future work. From a positive point of view, if the main economic gains are minimal, why do South-South agreements continue to increase in popularity, not only amongst politicians in the South but also amongst politicians in the North? One possible answer is non-economic motifs. For example, an important aspect of COMESA's official priorities is the promotion of peace and security in the region. This goal is consistent with recent work in the literature by Martin, Mayer and Thoenig (2005) who show that regional trade agreements can reduce the probability of war

[24] However, as pointed out in the literature survey, the evidence on South-South African PTAs based on gravity-type analyses of aggregate data is mixed (Cernat 2001, Subramanian and Tamirisa 2001).

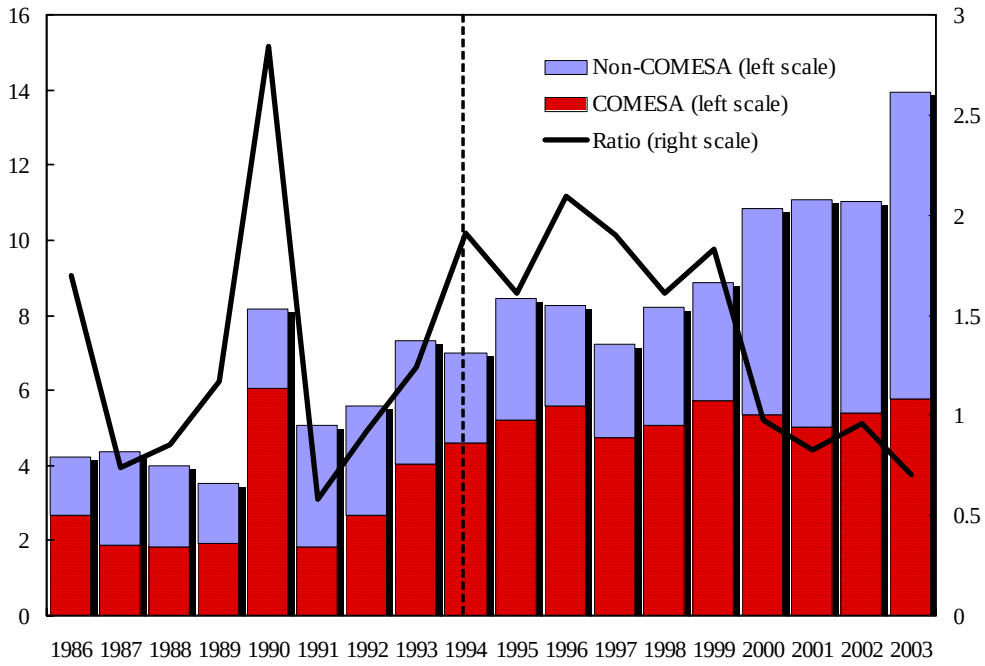
between liberalizing countries, while multilateral liberalization can potentially increase it. However, from a normative point of view, given the limited capacity of institutions in the South, are resources efficiently spent in the negotiation and implementation of South-South regional trade agreements? The answers to these questions are clearly not resolved in this paper.

Figure 1. Uganda: Imports and Tariff Revenue (percent of GDP), 1986 - 2003



Source: Ugandan Authorities, DOTS (IMF), and IFS (IMF).

Figure 2 Uganda: Imports from Developing Countries (percent of GDP), 1986 - 2003



Source: Ugandan Authorities, DOTS (IMF), and IFS (IMF); Non-COMESA countries are only non-COMESA developing countries. The ratio is COMESA imports to non-COMESA imports.

Table 1: Summary statistics for Uganda vis-à-vis COMESA countries (1994-2003)

Variable	Obs	Mean	Std. Dev.	Min	Max
Tariff Rate for COMESA countries 1994 (percentage points)	1,204	11.3	10.0	0.0	118.0
COMESA Tariff Rate 2003 (percentage points)	1,204	5.5	7.8	0.0	136.0
Imports from COMESA countries (1994, thousand $)	1,204	155.2	1,065.9	0.5	20,262.3
Imports from COMESA countries (2003, thousand $)	1,204	289.3	5,269.1	0.5	181,275.2

The sample is resticted to commodities for which data on imports from COMESA countries is available for both 1994 and 2003.
Tariff rates are adjusted for the existence of import excise taxes.
The tariff rate for COMESA countries in 1994 is the average tariff rate faced by COMESA countries in 1994, which uses both PTA and MFN rates.
Imports refer to a single 6-digit HS commodity.
Preferential tariff rates are set equal to MFN tarfiff rates when no preferential rate is specified.

Table 2: Summary statistics for Uganda vis-à-vis non-COMESA countries (1994-2003)

Variable	Obs	Mean	Std. Dev.	Min	Max
MFN Tariff Rate 1994 (percentage points)	1,020	17.9	8.6	0.0	60.0
MFN Tariff Rate 2003 (percentage points)	1,020	10.2	10.2	0.0	145.0
Imports from non-COMESA (1994, thousand $)	1,020	364.6	1,289.2	0.5	18,223.9
Imports from non-COMESA (2003, thousand $)	1,020	718.4	2,381.7	0.5	30,602.1

The sample is resticted to commodities for which data on imports from non-COMESA countries is available for both 1994 and 2003. This is a subset of the dataset we use, which restricts productcodes to commodities that in at least one of the years was imported from COMESA.
Tariff rates are adjusted for the existence of import excise taxes.
Imports refer to a single 6-digit HS commodity.

Table 3: The pattern of protection in Uganda in 1994 and 2003 under the preferential trade agreements (PTA in 1994 and COMESA in 2003)

PTA tariff rates	1994			COMESA tariff rates	2003		
	Freq.	Percent	Cum.		Freq.	Percent	Cum.
Free Trade	334	6.66	6.66	**Free Trade**	986	20.20	20.20
Tariffs under 5 per cent	1,172	23.36	30.01	**Tariffs under 5 per cent**	2,035	41.70	61.91
Tariffs between 5 and 10 per cent	1,558	31.05	61.06	**Tariffs between 5 and 10 per cent**	1,521	31.17	93.07
Tariffs between 10 and 25 per cent	1,367	27.24	88.30	**Tariffs between 10 and 25 per cent**	305	6.25	99.32
Tariffs over 25 per cent	587	11.70	100.00	**Tariffs over 25 per cent**	33	0.68	100.00
Total	5,018	100.00		**Total**	4,880	100.00	

Preferential tariff rates are set equal to MFN tarfiff rates when no preferential rate is specified.
Tariff rates are adjusted for the existence of import excise taxes.

Table 4: The pattern of protection in Uganda in 1994 and 2003 vis-a-vis the rest of the world (MFN tariff rates)

MFN tariff rates	1994			MFN tariff rates	2003		
	Freq.	Percent	Cum.		Freq.	Percent	Cum.
Free Trade	170	3.39	3.39	**Free Trade**	986	20.20	20.20
Tariffs under 5 per cent	11	0.22	3.61	**Tariffs under 5 per cent**	12	0.25	20.45
Tariffs between 5 and 10 per cent	2,268	45.20	48.80	**Tariffs between 5 and 10 per cent**	2,021	41.41	61.86
Tariffs between 10 and 25 per cent	1,298	25.87	74.67	**Tariffs between 10 and 25 per cent**	1,813	37.15	99.02
Tariffs over 25 per cent	1,271	25.33	100.00	**Tariffs over 25 per cent**	48	0.98	100.00
Total	5,018	100.00		**Total**	4,880	100.00	

Tariff rates are adjusted for the existence of import excise taxes.

Table 5: Estimates Based on Uganda Imports in 1994, 2000, 2001, 2002, and 2003

	(1)	(2)	(3)	(4)	(5)
Dependent variable	Log of imports	Log of imports	Log of imports	Log of imports	Difference of log of imports: COMESA vs. non-COMESA
Log of preferential tariff	-0.0879	0.1072	-3.1740	-1.7243	
	0.2859	0.3085	0.6954**	0.8017*	
Log of preference margin					-1.9538
					1.1924+
Constant	2.4051	1.3715	16.4824	9.8462	-1.1211
	1.3347	1.4364	3.2408**	3.7372**	0.0857**
Year dummy variables	No	Yes	Yes	Yes	Yes
Commodity dummy variables	No	No	Yes	No	No
Commodity-country dummy variables	No	No	No	Yes	Yes
Number of differences	Zero	Zero	Zero	One	Two
Estimator	OLS	OLS	OLS	FE	FE
Observations	10,341	10,341	10,341	10,341	10,341
R-squared	0.00	0.00	0.60	0.76	0.81
Elasticity of substitution	**-0.0879**	**0.1072**	**-3.174**	**-1.7243**	**-1.9538**
	0.2859	**0.3085**	**0.6954****	**0.8017***	**1.1924+**

Robust standard errors in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%

The *log of import* equals the log of Uganda's imports from COMESA countries (1994, 2000, 2001, 2002, 2003). The difference of log of imports: COMESA vs. non-COMESA equals the log of Uganda's relative imports from COMESA vs. non-COMESA countries (1994, 2000, 2001, 2002, 2003).

The *log of preferential tariff* equals the log of (100 plus) Uganda's tariff rate (1994, 2002, 2001, 2002, 2003). The log preference margin equals the log of (100 plus) Uganda's preferential tariff rate for COMESA countries (PTA tariff rate (for PTA countries) and customs-duty rate (for non-PTA countries) in 1994; and COMESA tariff rate in 2000, 2001, 2002, 2003) minus the log of (100 plus) Uganda's customs-duty rate for non-COMESA countries.

Commodity dummy variables are set at the 6-digit HS product-code level. Commodity-country dummy variables are for the pairwise combinations of commodities and import-origin countries.

Table 6: Estimates Based on Uganda Imports in 1994, 2000, 2001, 2002, and 2003

	(1)	(2)	(3)	(4)	(5)
Dependent variable	Log of imports	Log of imports	Log of imports	Log of imports	Difference of log of imports: COMESA vs. non-COMESA
Preferential tariff rate	0.0010	0.0025	-0.0255	-0.0136	
	0.0024	0.0025	0.0069**	0.0083+	
Preference margin					-0.0193
					0.0096*
Constant	1.9879	1.9888	2.2772	1.8901	-1.1295
	0.0244**	0.0443**	0.0943**	0.0602**	0.0826**
Year dummy variables	No	Yes	Yes	Yes	Yes
Commodity dummy variables	No	No	Yes	No	No
Commodity-country dummy variables	No	No	No	Yes	Yes
Number of differences	Zero	Zero	Zero	One	Two
Estimator	OLS	OLS	OLS	FE	FE
Observations	10,341	10,341	10,341	10,341	10,341
R-squared	0.00	0.00	0.60	0.76	0.81

Robust standard errors in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%
The *log of import* equals the log of Uganda's imports from COMESA countries (1994, 2000, 2001, 2002, 2003). The difference of log of imports: COMESA vs. non-COMESA equals the log of Uganda's relative imports from COMESA vs. non-COMESA countries (1994, 2000

The *log of preferential tariff* equals the log of (100 plus) Uganda's tariff rate (1994, 2002, 2001, 2002, 2003). The log preference margin equals the log of (100 plus) Uganda's preferential tariff rate for COMESA countries (PTA tariff rate (for PTA count
Commodity dummy variables are set at the 6-digit HS product-code level. Commodity-country dummy variables are for the pairwise combinations of commodities and import-origin countries.

Table 7: Robustness Checks

	(1) Including Missing Obs.	(2)	(3) Broad Sectors	(4)	(5) Triple Diff with South Africa	(6)
		HS 1	HS 2	HS 3		
Dependent variable	Difference of log of imports: COMESA vs. non-COMESA	Difference of log of imports: COMESA vs. non-COMESA	Difference of log of imports: COMESA vs. non-COMESA	Difference of log of imports: COMESA vs. non-COMESA	Difference of log of imports: COMESA vs. non-COMESA	Diff - in - Diff: COMESA vs. non-COMESA, Uganda vs. South Africa
Log of preference margin	-0.3185	-12.0281	-8.0169	-4.4884	1.1562	
	1.1270	6.7830+	3.0652**	2.1271*	6.5281	
Ratio of preference margin: Uganda vs. South Africa						-3.2874
						10.8450
Constant	-5.0657	-0.0230	3.5646	0.1060	-2.1392	4.0646
	0.0792**	0.6172	0.3577**	0.2060	0.6261**	0.8081**
Year dummy variables	Yes	Yes	Yes	Yes	Yes	Yes
Commodity dummy variables	No	No	No	No	No	No
Commodity-country dummy variables	Yes	Yes	Yes	Yes	Yes	Yes
Number of differences	Two	Two	Two	Two	Two	Three
Estimator	FE	FE	FE	FE	FE	FE
Observations	21,500	470	1,090	1,357	317	317
R-squared	0.57	0.74	0.77	0.72	0.99	0.97
Elasticity of substitution	**-0.3185**	**-12.0281**	**-8.0169**	**-4.4884**	**1.1562**	**-3.2874**
	1.127	**6.7830+**	**3.0652****	**2.1271***	**6.5281**	**10.845**

Robust standard errors in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%

The difference of log of imports: COMESA vs. non-COMESA equals the log of Uganda's relative imports from COMESA vs. non-COMESA countries (1994, 2000, 2001, 2002, 2003). The *diff - in - diff: COMESA vs. non-COMESA* , Uganda vs. South Africa equals the log of relative imports from COMESA vs. non-COMESA countries in Uganda vs. South Africa (1994, 2001).

The log preference margin equals the log of (100 plus) Uganda's preferential tariff rate for COMESA countries (PTA tariff rate (for PTA countries) and customs-duty rate (for non-PTA countries) in 1994; and COMESA tariff rate in 2000, 2001, 2002, 2003) minus the log of (100 plus) Uganda's customs-duty rate for non-COMESA countries. The *ratio of preference margin: Uganda vs. South Africa* is the log difference between the preference margin in Uganda and the preference margin in South Africa.

Commodity dummy variables are set at the 6-digit HS product-code level. Commodity-country dummy variables are for the pairwise combinations of commodities and import-origin countries.

Broad HS codes are defined in appendix I.

Table 8: Estimates of Trade Diversion Based on Uganda Imports from Non-COMESA countries in 1994, 2000, 2001, 2002, and 2003

	(1)	(2)	(3)	(4)
Dependent variable	Log of imports	Log of imports	Log of imports	Log of imports
Log of MFN tariff	-0.8052	-0.7438	-0.6540	-0.64313
	0.2869**	0.3440*	0.3444+	0.3458+
Log of preferential tariff		-0.1306	-0.1828	-0.3144
		0.3838	0.3837	0.3884
Log of preferential tariff *Log of			-0.0378	
COMESA imports			0.0376	
Log of COMESA imports			0.1961	
			0.1750	
Log of preferential tariff *COMESA				0.0390
share				0.5702
COMESA share in imports				-1.1308
				2.6690
Constant	5.6131	5.9363	5.7554	6.4676
	1.3676**	1.6379**	1.6311**	1.7069**
Year dummy variables	Yes	Yes	Yes	Yes
Commodity-country dummy variables	Yes	Yes	Yes	Yes
Number of differences	One	One	One	One
Estimator	FE	FE	FE	FE
Observations	62,302	62,302	62,302	62,302
R-squared	0.78	0.78	0.78	0.78

Robust standard errors in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%
The *log of import* equals the log of Uganda's imports from non-COMESA countries (1994, 2000, 2001, 2002, 2003).
The log of MFN tariff equals the log of (100 plus) Uganda's tariff rate (1994, 2002, 2001, 2002, 2003). The *log of COMESA imports* equals the log of Uganda's imports from COMESA countries (1994, 2002, 2001, 2002, 2003) in that commodity. The COMESA share in imports equals the share of Uganda's imports from COMESA countries (1994, 2002, 2001, 2002, 2003) in that commodity.
Commodity dummy variables are set at the 6-digit HS product-code level. Commodity-country dummy variables are for the pairwise combinations of commodities and import-origin countries.

Uganda's preferential tariff rates by 2-digit 1996 HS codes, 1994 and 2003

2-digit HS codes		Preferential Tariff Rates, 1994	Preferential Tariff Rates, 2003	% Point Change Preferential Tariff Rates
01	LIVE ANIMALS	4.67	4.00	-0.67
02	MEAT AND EDIBLE MEAT OFFAL	21.12	16.00	-5.12
03	FISH, CRUSTACEANS & AQUATIC INVERTEBRA	15.34	6.00	-9.34
04	DAIRY PRODS; BIRDS EGGS; HONEY; ED ANIM	14.60	13.20	-1.40
05	PRODUCTS OF ANIMAL ORIGIN, NESOI	14.41	5.88	-8.53
06	LIVE TREES, PLANTS, BULBS ETC.; CUT FLOWE	15.38	2.67	-12.72
07	EDIBLE VEGETABLES & CERTAIN ROOTS & TU	23.21	6.00	-17.21
08	EDIBLE FRUIT & NUTS; CITRUS FRUIT OR MEL	24.08	6.00	-18.08
09	COFFEE, TEA, MATE & SPICES	20.52	4.19	-16.33
10	CEREALS	11.22	5.13	-6.09
11	MILLING PRODUCTS; MALT; STARCH; INULIN;	20.01	5.24	-14.77
12	OIL SEEDS ETC.; MISC GRAIN, SEED, FRUIT, PL	10.00	3.84	-6.16
13	LAC; GUMS, RESINS & OTHER VEGETABLE SAI	8.00	4.00	-4.00
14	VEGETABLE PLAITING MATERIALS & PRODUC	22.18	4.00	-18.18
15	ANIMAL OR VEGETABLE FATS, OILS ETC. & W	6.67	6.51	-0.17
16	EDIBLE PREPARATIONS OF MEAT, FISH, CRUST	19.68	6.00	-13.68
17	SUGARS AND SUGAR CONFECTIONARY	12.67	11.73	-0.93
18	COCOA AND COCOA PREPARATIONS	23.18	6.00	-17.18
19	PREP CEREAL, FLOUR, STARCH OR MILK; BAKI	15.00	8.50	-6.50
20	PREP VEGETABLES, FRUIT, NUTS OR OTHER PI	15.34	9.95	-5.39
21	MISCELLANEOUS EDIBLE PREPARATIONS	18.00	9.33	-8.67
22	BEVERAGES, SPIRITS AND VINEGAR	55.90	62.67	6.76
23	FOOD INDUSTRY RESIDUES & WASTE; PREP AI	5.88	5.83	-0.05
24	TOBACCO AND MANUFACTURED TOBACCO SU	55.00	96.00	41.00
25	SALT; SULFUR; EARTH & STONE; LIME & CEMI	6.96	4.64	-2.32
26	ORES, SLAG AND ASH	8.35	3.76	-4.59
27	MINERAL FUEL, OIL ETC.; BITUMIN SUBST; MI	6.72	4.34	-2.38
28	INORG CHEM; PREC & RARE-EARTH MET & RA	9.01	2.87	-6.14
29	ORGANIC CHEMICALS	8.24	3.25	-4.98
30	PHARMACEUTICAL PRODUCTS	0.00	0.00	0.00
31	FERTILIZERS	0.00	0.00	0.00
32	TANNING & DYE EXT ETC; DYE, PAINT, PUTTY	8.80	3.16	-5.65
33	ESSENTIAL OILS ETC; PERFUMERY, COSMETIC	35.15	14.43	-20.72
34	SOAP ETC; WAXES, POLISH ETC; CANDLES; DE	17.55	7.39	-10.15
35	ALBUMINOIDAL SUBST; MODIFIED STARCH; G	8.38	2.46	-5.92
36	EXPLOSIVES; PYROTECHNICS; MATCHES; PYR	18.63	6.00	-12.63
37	PHOTOGRAPHIC OR CINEMATOGRAPHIC GOOI	22.42	5.03	-17.39
38	MISCELLANEOUS CHEMICAL PRODUCTS	7.07	2.83	-4.25
39	PLASTICS AND ARTICLES THEREOF	6.43	5.21	-1.21
40	RUBBER AND ARTICLES THEREOF	7.19	3.98	-3.21
41	RAW HIDES AND SKINS (NO FURSKINS) AND LI	10.68	4.00	-6.68
42	LEATHER ART; SADDLERY ETC; HANDBAGS E	13.59	6.00	-7.59
43	FURSKINS AND ARTIFICIAL FUR; MANUFACTU	18.33	5.71	-12.62
44	WOOD AND ARTICLES OF WOOD; WOOD CHAR	14.15	9.90	-4.25
45	CORK AND ARTICLES OF CORK	12.00	6.00	-6.00
46	MFR OF STRAW, ESPARTO ETC.; BASKETWARE	10.00	6.00	-4.00

Uganda's preferential tariff rates by 2-digit 1996 HS codes, 1994 and 2003 (cont.)

2-digit HS codes		Preferential Tariff Rates, 1994	Preferential Tariff Rates, 2003	% Point Change Preferential Tariff Rates
47	WOOD PULP ETC; RECOVD (WASTE & SCRAP) I	1.84	3.37	1.53
48	PAPER & PAPERBOARD & ARTICLES (INC PAPR	7.27	4.94	-2.33
49	PRINTED BOOKS, NEWSPAPERS ETC; MANUSCI	5.42	2.32	-3.11
50	SILK, INCLUDING YARNS AND WOVEN FABRIC	12.80	6.00	-6.80
51	WOOL & ANIMAL HAIR, INCLUDING YARN & W	13.25	5.94	-7.31
52	COTTON, INCLUDING YARN AND WOVEN FABI	19.09	7.57	-11.52
53	VEG TEXT FIB NESOI; VEG FIB & PAPER YNS &	11.87	5.86	-6.01
54	MANMADE FILAMENTS, INCLUDING YARNS &	11.02	10.06	-0.95
55	MANMADE STAPLE FIBERS, INCL YARNS & WC	12.43	6.09	-6.35
56	WADDING, FELT ETC; SP YARN; TWINE, ROPES	14.52	4.23	-10.29
57	CARPETS AND OTHER TEXTILE FLOOR COVER	20.87	6.00	-14.87
58	SPEC WOV FABRICS; TUFTED FAB; LACE; TAPE	17.56	6.00	-11.56
59	IMPREGNATED ETC TEXT FABRICS; TEX ART F	9.92	5.75	-4.17
60	KNITTED OR CROCHETED FABRICS	15.00	5.88	-9.12
61	APPAREL ARTICLES AND ACCESSORIES, KNIT	18.38	6.00	-12.38
62	APPAREL ARTICLES AND ACCESSORIES, NOT K	15.04	6.00	-9.04
63	TEXTILE ART NESOI; NEEDLECRAFT SETS; WO	14.66	6.81	-7.84
64	FOOTWEAR, GAITERS ETC. AND PARTS THERE	15.00	5.86	-9.14
65	HEADGEAR AND PARTS THEREOF	20.45	6.00	-14.45
66	UMBRELLAS, WALKING-STICKS, RIDING-CROP	23.57	6.00	-17.57
67	PREP FEATHERS, DOWN ETC; ARTIF FLOWERS;	30.00	6.50	-23.50
68	ART OF STONE, PLASTER, CEMENT, ASBESTOS	13.26	5.83	-7.43
69	CERAMIC PRODUCTS	8.93	5.57	-3.36
70	GLASS AND GLASSWARE	12.36	5.37	-6.99
71	NAT ETC PEARLS, PREC ETC STONES, PR MET I	20.13	5.77	-14.36
72	IRON AND STEEL	6.01	4.11	-1.90
73	ARTICLES OF IRON OR STEEL	12.42	3.88	-8.53
74	COPPER AND ARTICLES THEREOF	12.07	4.00	-8.07
75	NICKEL AND ARTICLES THEREOF	10.31	4.50	-5.81
76	ALUMINUM AND ARTICLES THEREOF	5.71	4.03	-1.68
78	LEAD AND ARTICLES THEREOF	8.50	3.60	-4.90
79	ZINC AND ARTICLES THEREOF	8.18	3.20	-4.98
80	TIN AND ARTICLES THEREOF	7.44	3.00	-4.44
81	BASE METALS NESOI; CERMETS; ARTICLES TH	10.00	3.96	-6.04
82	TOOLS, CUTLERY ETC. OF BASE METAL & PAR	11.28	4.00	-7.28
83	MISCELLANEOUS ARTICLES OF BASE METAL	11.40	5.28	-6.12
84	NUCLEAR REACTORS, BOILERS, MACHINERY E	4.89	0.44	-4.45
85	ELECTRIC MACHINERY ETC; SOUND EQUIP; TV	10.83	3.45	-7.38
86	RAILWAY OR TRAMWAY STOCK ETC; TRAFFIC	2.58	0.00	-2.58
87	VEHICLES, EXCEPT RAILWAY OR TRAMWAY, /	10.12	5.32	-4.80
88	AIRCRAFT, SPACECRAFT, AND PARTS THEREO	10.00	0.53	-9.47
89	SHIPS, BOATS AND FLOATING STRUCTURES	14.18	1.29	-12.88
90	OPTIC, PHOTO ETC, MEDIC OR SURGICAL INST	10.19	1.21	-8.98
91	CLOCKS AND WATCHES AND PARTS THEREOF	23.05	6.00	-17.05
92	MUSICAL INSTRUMENTS; PARTS AND ACCESS(	30.00	4.00	-26.00
93	ARMS AND AMMUNITION; PARTS AND ACCESS	9.41	4.00	-5.41
94	FURNITURE; BEDDING ETC; LAMPS NESOI ETC	11.16	6.75	-4.41
95	TOYS, GAMES & SPORT EQUIPMENT; PARTS &	14.67	5.77	-8.91
96	MISCELLANEOUS MANUFACTURED ARTICLES	20.84	5.02	-15.82
97	WORKS OF ART, COLLECTORS' PIECES AND AN	7.14	6.00	-1.14

Uganda's MFN tariff rates by 2-digit 1996 HS codes, 1994 and 2003

2-digit HS codes		MFN Tariff Rates, 1994	MFN Tariff Rates, 2003	Percentage Point Change MFN Tariff Rates
01	LIVE ANIMALS	6.67	7.00	0.33
02	MEAT AND EDIBLE MEAT OFFAL	30.00	25.00	-5.00
03	FISH, CRUSTACEANS & AQUATIC INVERTEBRATES	30.00	15.00	-15.00
04	DAIRY PRODS; BIRDS EGGS; HONEY; ED ANIMAL PR NESOI	22.80	22.20	-0.60
05	PRODUCTS OF ANIMAL ORIGIN, NESOI	15.88	13.29	-2.59
06	LIVE TREES, PLANTS, BULBS ETC.; CUT FLOWERS ETC.	17.69	4.67	-13.03
07	EDIBLE VEGETABLES & CERTAIN ROOTS & TUBERS	30.00	15.00	-15.00
08	EDIBLE FRUIT & NUTS; CITRUS FRUIT OR MELON PEEL	20.00	15.00	-5.00
09	COFFEE, TEA, MATE & SPICES	25.15	7.09	-18.06
10	CEREALS	14.06	9.44	-4.63
11	MILLING PRODUCTS; MALT; STARCH; INULIN; WHT GLUTEN	28.82	11.86	-16.96
12	OIL SEEDS ETC.; MISC GRAIN, SEED, FRUIT, PLANT ETC	19.32	6.73	-12.59
13	LAC; GUMS, RESINS & OTHER VEGETABLE SAP & EXTRACT	21.67	7.00	-14.67
14	VEGETABLE PLAITING MATERIALS & PRODUCTS NESOI	28.18	6.63	-21.56
15	ANIMAL OR VEGETABLE FATS, OILS ETC. & WAXES	22.88	11.68	-11.21
16	EDIBLE PREPARATIONS OF MEAT, FISH, CRUSTACEANS ETC	30.00	15.00	-15.00
17	SUGARS AND SUGAR CONFECTIONARY	22.00	17.93	-4.07
18	COCOA AND COCOA PREPARATIONS	30.00	15.00	-15.00
19	PREP CEREAL, FLOUR, STARCH OR MILK; BAKERS WARES	26.25	17.50	-8.75
20	PREP VEGETABLES, FRUIT, NUTS OR OTHER PLANT PARTS	30.00	18.95	-11.05
21	MISCELLANEOUS EDIBLE PREPARATIONS	26.00	14.93	-11.07
22	BEVERAGES, SPIRITS AND VINEGAR	29.05	71.67	42.62
23	FOOD INDUSTRY RESIDUES & WASTE; PREP ANIMAL FEED	10.00	14.30	4.30
24	TOBACCO AND MANUFACTURED TOBACCO SUBSTITUTES	50.00	105.00	55.00
25	SALT; SULFUR; EARTH & STONE; LIME & CEMENT PLASTER	14.29	8.68	-5.61
26	ORES, SLAG AND ASH	10.00	6.59	-3.41
27	MINERAL FUEL, OIL ETC.; BITUMIN SUBST; MINERAL WAX	10.45	9.10	-1.35
28	INORG CHEM; PREC & RARE-EARTH MET & RADIOACT COMPD	10.00	5.03	-4.97
29	ORGANIC CHEMICALS	9.80	5.69	-4.10
30	PHARMACEUTICAL PRODUCTS	0.00	0.00	0.00
31	FERTILIZERS	0.00	0.00	0.00
32	TANNING & DYE EXT ETC; DYE, PAINT, PUTTY ETC; INKS	15.43	6.26	-9.18
33	ESSENTIAL OILS ETC; PERFUMERY, COSMETIC ETC PREPS	28.53	22.58	-5.95
34	SOAP ETC; WAXES, POLISH ETC; CANDLES; DENTAL PREPS	24.85	13.52	-11.33
35	ALBUMINOIDAL SUBST; MODIFIED STARCH; GLUE; ENZYMES	11.54	4.31	-7.23
36	EXPLOSIVES; PYROTECHNICS; MATCHES; PYRO ALLOYS ETC	21.25	15.00	-6.25
37	PHOTOGRAPHIC OR CINEMATOGRAPHIC GOODS	23.89	12.40	-11.49
38	MISCELLANEOUS CHEMICAL PRODUCTS	10.18	4.94	-5.23
39	PLASTICS AND ARTICLES THEREOF	12.17	9.60	-2.57
40	RUBBER AND ARTICLES THEREOF	13.56	6.92	-6.64
41	RAW HIDES AND SKINS (NO FURSKINS) AND LEATHER	30.00	7.00	-23.00
42	LEATHER ART; SADDLERY ETC; HANDBAGS ETC; GUT ART	26.36	15.00	-11.36
43	FURSKINS AND ARTIFICIAL FUR; MANUFACTURES THEREOF	18.33	13.86	-4.48
44	WOOD AND ARTICLES OF WOOD; WOOD CHARCOAL	28.38	17.29	-11.10
45	CORK AND ARTICLES OF CORK	12.86	15.00	2.14

Uganda's MFN tariff rates by 2-digit 1996 HS codes, 1994 and 2003 (cont.)

2-digit HS codes		MFN Tariff Rates, 1994	MFN Tariff Rates, 2003	Percentage Point Change MFN Tariff Rates
46	MFR OF STRAW, ESPARTO ETC.; BASKETWARE & WICKERWRK	28.33	15.00	-13.33
47	WOOD PULP ETC; RECOVD (WASTE & SCRAP) PPR & PPRBD	12.11	5.89	-6.21
48	PAPER & PAPERBOARD & ARTICLES (INC PAPR PULP ARTL)	15.05	9.21	-5.83
49	PRINTED BOOKS, NEWSPAPERS ETC; MANUSCRIPTS ETC	8.42	4.05	-4.37
50	SILK, INCLUDING YARNS AND WOVEN FABRIC THEREOF	13.00	15.00	2.00
51	WOOL & ANIMAL HAIR, INCLUDING YARN & WOVEN FABRIC	13.06	14.78	1.72
52	COTTON, INCLUDING YARN AND WOVEN FABRIC THEREOF	21.34	14.21	-7.13
53	VEG TEXT FIB NESOI; VEG FIB & PAPER YNS & WOV FAB	12.26	14.45	2.19
54	MANMADE FILAMENTS, INCLUDING YARNS & WOVEN FABRICS	14.77	16.08	1.32
55	MANMADE STAPLE FIBERS, INCL YARNS & WOVEN FABRICS	15.91	10.13	-5.78
56	WADDING, FELT ETC; SP YARN; TWINE, ROPES ETC.	24.81	8.27	-16.55
57	CARPETS AND OTHER TEXTILE FLOOR COVERINGS	30.00	15.00	-15.00
58	SPEC WOV FABRICS; TUFTED FAB; LACE; TAPESTRIES ETC	20.37	15.00	-5.37
59	IMPREGNATED ETC TEXT FABRICS; TEX ART FOR INDUSTRY	17.20	14.00	-3.20
60	KNITTED OR CROCHETED FABRICS	30.00	14.53	-15.47
61	APPAREL ARTICLES AND ACCESSORIES, KNIT OR CROCHET	20.00	15.00	-5.00
62	APPAREL ARTICLES AND ACCESSORIES, NOT KNIT ETC.	20.00	15.00	-5.00
63	TEXTILE ART NESOI; NEEDLECRAFT SETS; WORN TEXT ART	19.48	15.04	-4.45
64	FOOTWEAR, GAITERS ETC. AND PARTS THEREOF	30.00	14.45	-15.55
65	HEADGEAR AND PARTS THEREOF	30.00	15.00	-15.00
66	UMBRELLAS, WALKING-STICKS, RIDING-CROPS ETC, PARTS	30.00	15.00	-15.00
67	PREP FEATHERS, DOWN ETC; ARTIF FLOWERS; H HAIR ART	30.00	15.50	-14.50
68	ART OF STONE, PLASTER, CEMENT, ASBESTOS, MICA ETC.	21.79	14.33	-7.46
69	CERAMIC PRODUCTS	22.50	13.93	-8.57
70	GLASS AND GLASSWARE	17.98	12.95	-5.04
71	NAT ETC PEARLS, PREC ETC STONES, PR MET ETC; COIN	21.47	14.42	-7.05
72	IRON AND STEEL	11.96	7.07	-4.89
73	ARTICLES OF IRON OR STEEL	17.64	6.65	-10.98
74	COPPER AND ARTICLES THEREOF	12.07	7.00	-5.07
75	NICKEL AND ARTICLES THEREOF	10.31	9.00	-1.31
76	ALUMINUM AND ARTICLES THEREOF	15.88	7.65	-8.24
78	LEAD AND ARTICLES THEREOF	12.00	6.30	-5.70
79	ZINC AND ARTICLES THEREOF	12.73	5.60	-7.13
80	TIN AND ARTICLES THEREOF	12.22	5.25	-6.97
81	BASE METALS NESOI; CERMETS; ARTICLES THEREOF	10.00	6.94	-3.06
82	TOOLS, CUTLERY ETC. OF BASE METAL & PARTS THEREOF	20.62	7.00	-13.62
83	MISCELLANEOUS ARTICLES OF BASE METAL	20.00	12.11	-7.89
84	NUCLEAR REACTORS, BOILERS, MACHINERY ETC.; PARTS	11.31	0.77	-10.54
85	ELECTRIC MACHINERY ETC; SOUND EQUIP; TV EQUIP; PTS	18.58	6.67	-11.91
86	RAILWAY OR TRAMWAY STOCK ETC; TRAFFIC SIGNAL EQUIP	10.00	0.00	-10.00
87	VEHICLES, EXCEPT RAILWAY OR TRAMWAY, AND PARTS ETC	15.83	10.24	-5.60
88	AIRCRAFT, SPACECRAFT, AND PARTS THEREOF	10.00	0.93	-9.07
89	SHIPS, BOATS AND FLOATING STRUCTURES	17.35	3.06	-14.29
90	OPTIC, PHOTO ETC, MEDIC OR SURGICAL INSTRMENTS ETC	12.14	2.39	-9.74
91	CLOCKS AND WATCHES AND PARTS THEREOF	29.45	15.00	-14.45
92	MUSICAL INSTRUMENTS; PARTS AND ACCESSORIES THEREOF	30.00	7.00	-23.00
93	ARMS AND AMMUNITION; PARTS AND ACCESSORIES THEREOF	9.41	7.00	-2.41
94	FURNITURE; BEDDING ETC; LAMPS NESOI ETC; PREFAB BD	24.86	15.17	-9.70
95	TOYS, GAMES & SPORT EQUIPMENT; PARTS & ACCESSORIES	20.23	14.07	-6.16
96	MISCELLANEOUS MANUFACTURED ARTICLES	27.25	11.08	-16.17
97	WORKS OF ART, COLLECTORS' PIECES AND ANTIQUES	10.00	15.00	5.00

Uganda's imports by country of origin, 1994 and 2003
(based on data at the commodity level)

COMESA	country	imports, 1994 (thousand $)	Rank	imports, 2003 (thousand $)	Rank
1	Burundi	176.68	53	25.44	107
1	Dem.Rp.Congo	1,140.56	39	298.98	58
1	Djibouti	2,787.93	26	0.00	134
1	Egypt	951.83	40	6,413.00	30
1	Eritrea	0.00	136	84.62	84
1	Ethiopia	521.70	44	53.58	95
1	Kenya	186,784.85	1	357,194.21	1
1	Madagascar	0.00	136	1.99	129
1	Malawi	890.89	41	300.13	57
1	Mauritius	1,175.95	36	2,479.16	37
1	Namibia	0.00	136	200.91	64
1	Rwanda	74.46	66	534.14	53
1	Sudan	28.25	85	10.08	117
1	Swaziland	0.00	136	9,999.18	23
1	Zambia	1,831.85	31	210.10	63
1	Zimbabwe	2,217.92	28	848.67	49
0	Afghanistan	0.00	136	93.52	82
0	Algeria	1.67	126	149.21	71
0	Andorra	0.00	136	29.44	105
0	Antigua,Barb	1.15	132	1,071.14	46
0	Argentina	48.46	71	2,190.64	38
0	Aruba	0.00	136	3.20	125
0	Asia Othr.ns	1,161.79	37	2,512.74	36
0	Australia	370.95	47	31,973.42	11
0	Austria	4,566.90	21	1,647.10	43
0	Azerbaijan	0.00	136	14.35	114
0	Bahrain	81.28	64	178.39	67
0	Bangladesh	7,429.17	18	802.76	50
0	Barbados	77.93	65	0.00	134
0	Belarus	0.00	136	4.95	122
0	Belgium	0.00	136	23,047.56	14
0	Belgium-Lux	15,338.12	10	0.00	134
0	Belize	34.61	79	47.66	97
0	Benin	20.47	88	0.00	134
0	Botswana	0.00	136	123.76	74
0	Br.Ind.Oc.Tr	13.23	98	0.00	134
0	Br.Virgin Is	6.73	110	5.94	120
0	Brazil	1,804.00	32	3,111.65	34
0	Bulgaria	159.07	54	29.01	106
0	Burkina Faso	29.40	82	0.80	132
0	Cambodia	1.63	127	1.50	131
0	Cameroon	18.38	94	34.23	102
0	Canada	14,343.23	11	8,268.96	26

Uganda's imports by country of origin, 1994 and 2003 (cont.)
(based on data at the commodity level)

COMESA	country	imports, 1994 (thousand $)	Rank	imports, 2003 (thousand $)	Rank
0	Cayman Is	1.52	129	0.00	134
0	Chad	18.82	92	0.00	134
0	Chile	0.56	134	18.02	112
0	China	9,196.41	15	70,188.67	8
0	Colombia	31.63	80	7.34	118
0	Congo	26.70	87	443.58	55
0	Cote Divoire	38.81	77	150.14	70
0	Cuba	0.00	136	2.68	126
0	Cyprus	317.89	48	74.21	85
0	Czech Rep	20.17	89	695.19	52
0	Denmark	13,662.48	12	10,953.22	21
0	Dominica	18.99	91	98.76	79
0	Dominican Rp	1.26	130	0.00	134
0	East Timor	82.55	63	0.00	134
0	Ecuador	2.97	118	2.57	127
0	Estonia	0.00	136	46.04	98
0	Finland	742.60	42	1,909.34	40
0	Fr.Guiana	4.03	113	0.00	134
0	Fr.Polynesia	456.82	45	0.00	134
0	France+Monac	11,508.95	13	15,643.87	18
0	Gambia	0.00	136	53.55	96
0	Georgia	0.00	136	100.50	77
0	Germany	31,290.16	6	39,085.10	10
0	Ghana	2.22	121	53.61	94
0	Gibraltar	18.66	93	0.00	134
0	Greece	6.29	111	440.78	56
0	Grenada	90.53	61	20.16	109
0	Guinea	48.77	70	32.14	104
0	Guyana	0.00	136	25.00	108
0	Honduras	65.81	67	17.27	113
0	Hong Kong	15,863.72	9	16,789.43	16
0	Hungary	297.21	49	888.48	48
0	Iceland	144.33	55	714.26	51
0	India	46,783.64	4	102,079.14	2
0	Indonesia	1,475.70	34	4,684.74	31
0	Iran-Islam.R	89.34	62	1,877.86	41
0	Ireland	2,470.53	27	3,625.53	33
0	Israel	2,102.33	29	4,027.72	32
0	Italy	22,485.03	8	23,286.53	13
0	Jamaica	14.70	97	97.07	80
0	Japan	57,643.46	3	90,320.65	4
0	Jordan	442.76	46	132.96	73
0	Kazakhstan	0.00	136	1,259.95	44
0	Kiribati	42.45	74	0.00	134

Uganda's imports by country of origin, 1994 and 2003 (cont.)
(based on data at the commodity level)

COMESA	country	imports, 1994 (thousand $)	Rank	imports, 2003 (thousand $)	Rank
0	Korea D P Rp	1,151.19	38	96.10	81
0	Korea Rep.	3,376.00	22	6,947.52	28
0	Kuwait	114.70	57	2,130.10	39
0	Lebanon	46.59	72	64.18	90
0	Lesotho	0.00	136	11.10	116
0	Libya	0.00	136	5.59	121
0	Luxemberg	0.00	136	1.77	130
0	Malaysia	1,784.65	33	42,055.07	9
0	Mali	0.52	135	40.71	101
0	Malta	10.96	103	46.00	99
0	Mauritania	15.03	95	0.00	134
0	Mexico	5.71	112	165.78	68
0	Montserrat	3.32	116	18.09	111
0	Morocco	2.11	122	64.31	89
0	Mozambique	12.75	100	235.34	61
0	Myanmar	28.21	86	0.00	134
0	N.Mariana Is	1.72	124	0.00	134
0	Nauru	65.54	68	0.00	134
0	Nepal	3.77	115	0.00	134
0	Neth.Antiles	291.44	50	98.87	78
0	Netherlands	9,576.52	14	24,978.35	12
0	Neutral Zone	6.84	109	0.00	134
0	New Calednia	104.87	58	0.00	134
0	New Zealand	95.87	60	261.00	60
0	Nicaragua	0.00	136	2.40	128
0	Niger	1.68	125	60.77	91
0	Nigeria	19.85	90	482.06	54
0	Niue	8.92	105	0.00	134
0	Norway,Sb,JM	534.43	43	1,029.62	47
0	Oman	39.89	76	284.47	59
0	Pakistan	3,359.62	23	18,277.27	15
0	Palau	8.04	108	0.00	134
0	Panama	0.00	136	32.43	103
0	Papua N.Guin	0.00	136	4.00	124
0	Philippines	8.86	106	117.51	75
0	Pitcairn	0.00	136	64.36	88
0	Poland	221.52	51	188.65	65
0	Portugal	30.46	81	187.95	66
0	Qatar	11.84	102	154.85	69
0	Rep.Moldova	0.00	136	88.49	83
0	Reunion	13.22	99	0.00	134
0	Romania	2.86	119	67.68	87
0	Russian Fed	29.21	83	3,108.98	35

Uganda's imports by country of origin, 1994 and 2003 (cont.)
(based on data at the commodity level)

COMESA	country	imports, 1994 (thousand $)	Rank	imports, 2003 (thousand $)	Rank
0	South Africa	6,488.50	20	98,907.77	3
0	Saudi Arabia	1,222.27	35	12,258.02	19
0	Senegal	1.60	128	69.99	86
0	Sierra Leone	0.85	133	18.35	110
0	Singapore	8,091.33	17	11,360.32	20
0	Slovakia	0.00	136	145.80	72
0	Slovenia	0.00	136	55.32	93
0	Somalia	104.03	59	0.00	134
0	Spain	3,029.99	25	15,880.01	17
0	Sri Lanka	0.00	136	232.80	62
0	St.Helena	0.00	136	6.99	119
0	Suriname	28.55	84	0.64	133
0	Sweden	3,275.89	24	8,786.20	24
0	Switz.Liecht	6,598.45	19	7,028.06	27
0	Syrian A.R.	44.27	73	100.72	76
0	Tanzania	8,992.63	16	10,783.41	22
0	Thailand	1,915.47	30	8,751.30	25
0	Togo	40.33	75	0.00	134
0	Tokelau	8.70	107	4.19	123
0	Tonga	9.43	104	0.00	134
0	Trinidad Tbg	3.98	114	0.00	134
0	Tunisia	14.86	96	12.29	115
0	Turkey	0.00	136	1,820.40	42
0	Turks,Caicos	1.88	123	0.00	134
0	Tuvalu	60.34	69	0.00	134
0	Ukraine	178.48	52	1,098.00	45
0	Untd Arab Em	35,383.55	5	80,295.46	6
0	Untd.Kingdom	91,131.10	2	86,318.43	5
0	USA,PR,USVI	30,373.51	7	78,040.89	7
0	Venezuela	141.84	56	60.17	92
0	Viet Nam	3.30	117	6,475.54	29
0	Wallis Fut.I	12.21	101	0.00	134
0	Westn.Sahara	1.20	131	0.00	134
0	Yemen	35.63	78	42.64	100
0	Yugoslavia	2.39	120	0.00	134

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